

CLAIMS

What is claimed is:

- 1           1.     A method for locating an object device wirelessly communicating  
2     with at least one node, the method comprising:  
3               (a)     discovering the nodes wirelessly communicating with the  
4     object device;  
5               (b)     for each node wirelessly communicating with the object  
6     device, discovering a location of a coverage area for the node; and,  
7               (c)     discovering an area of location for the object device from  
8     the location of the coverage area for each node wirelessly communicating with  
9     the object device.
- 1           2.     The method of claim 1 wherein discovering the nodes includes:  
2               (a)     querying nodes to discover devices wirelessly  
3     communicating with each node;  
4               (b)     generating an index of devices wirelessly communicating  
5     with each node and the nodes to which each device is wirelessly  
6     communicating;  
7               (c)     selecting the object device from the index; and,  
8               (d)     reading the index to discover the nodes wirelessly  
9     communicating with the object device.
- 1           3.     The method of claim 1 wherein discovering the nodes includes  
2     querying nodes to discover whether the object device is wirelessly  
3     communicating with the nodes.
- 1           4.     The method of claim 1 wherein discovering the location of the  
2     coverage area for each node wirelessly communicating with the object device

3 includes reading the location of the coverage area for each node wirelessly  
4 communicating with the object device.

1 5. The method of claim 1 wherein discovering the location of the  
2 coverage area for each node wirelessly communicating with the object device  
3 includes:

4 (a) reading a node location for each node wirelessly  
5 communicating with the object device; and,

6 (b) calculating the location of the coverage area from the node  
7 location.

1 6. The method of claim 1 wherein discovering the area of location for  
2 the object device includes discovering a region common to the coverage areas  
3 for each node communicating wirelessly with the object device.

1 7. The method of claim 1 wherein discovering the area of location for  
2 the object device includes discovering a region excluding the coverage areas for  
3 each node not communicating wirelessly with the object device.

1 8. A system for locating an object device wirelessly communicating  
2 with at least one node, the system comprising:

3 (a) a node searcher configured to discover the nodes wirelessly  
4 communicating with the object device;

5 (b) a coverage area inspector configured to discover a location  
6 of a coverage area for the node for each node wirelessly communicating with  
7 the object device; and,

8 (c) an area of location finder configured to discover an area of  
9 location for the object device from the location of the coverage area for each  
10 node wirelessly communicating with the object device.

1           9.     The system of claim 8 wherein the node searcher includes:  
2                 (a)     an inquirer configured to query nodes to discover devices  
3 wirelessly communicating with each node;  
4                 (b)     an indexer configured to generate an index of devices  
5 wirelessly communicating with each node and the nodes to which each device is  
6 wirelessly communicating;  
7                 (c)     a selector configured to select the object device from the  
8 index; and,  
9                 (d)     an index reader configured to read the index to discover the  
10 nodes wirelessly communicating with the object device.

1           10.    The system of claim 8 wherein the node searcher includes an  
2 inquirer configured to query nodes to discover whether the object device is  
3 wirelessly communicating with the nodes.

1           11.    The system of claim 8 the coverage area inspector includes a node  
2 reader configured to read the location of the coverage area for each node  
3 wirelessly communicating with the object device.

1           12.    The system of claim 8 wherein the coverage area inspector  
2 includes:  
3                 (a)     a node reader configured to read a node location for each  
4 node wirelessly communicating with the object device; and,  
5                 (b)     a calculator configured to calculate the location of the  
6 coverage area from the node location.

1           13.    The system of claim 8 wherein the area of location finder includes  
2 a mapper configured to discover a region common to the coverage areas for  
3 each node communicating wirelessly with the object device.

1           14. The system of claim 8 wherein the area of location finder includes  
2 a mapper configured to discover a region excluding the coverage areas for each  
3 node not communicating wirelessly with the object device.

1           15. A program storage device readable by a computer, tangibly  
2 embodying a program, applet or instructions executable by the computer to  
3 perform method steps for locating an object device wirelessly communicating  
4 with at least one node, the method steps comprising:  
5           (a) discovering the nodes wirelessly communicating with the  
6 object device;  
7           (b) for each node wirelessly communicating with the object  
8 device, discovering a location of a coverage area for the node; and,  
9           (c) discovering an area of location for the object device from  
10 the location of the coverage area for each node wirelessly communicating with  
11 the object device.

1           16. The program storage device of claim 15 wherein the method step  
2 of discovering the nodes includes:  
3           (a) querying nodes to discover devices wirelessly  
4 communicating with each node;  
5           (b) generating an index of devices wirelessly communicating  
6 with each node and the nodes to which each device is wirelessly  
7 communicating;  
8           (c) selecting the object device from the index; and,  
9           (d) reading the index to discover the nodes wirelessly  
10 communicating with the object device.

1           17. The program storage device of claim 15 wherein the method step  
2 of discovering the nodes includes querying nodes to discover whether the object  
3 device is wirelessly communicating with the nodes.

1           18. The program storage device of claim 15 wherein the method step  
2 of discovering the location of the coverage area for each node includes reading  
3 the location of the coverage area for each node.

1           19. The program storage device of claim 15 wherein the method step  
2 of discovering the area of location for the object device includes discovering a  
3 region common to the coverage areas for each node communicating wirelessly  
4 with the object device.

1           20. The program storage device of claim 15 wherein the method step  
2 of discovering the area of location for the object device includes discovering a  
3 region excluding the coverage areas for each node not communicating wirelessly  
4 with the object device.